

Name _____

Measuring the Densities of Irregular Objects

Lab 2.3

1. Explain the procedure you would use to determine the density of the steel screw, copper cylinder, and nylon spacer.

2. Label your data table. Don't forget to include space for all of your measurements, calculations, and the density of the objects. Use the correct units of measure when labeling the columns. *Round density to the nearest hundredth.*

Table 1: Comparing Different Objects

Throughout the past few labs, you measured the mass and volume and calculated the density of a liquid and some solids. Answer the following questions to sum up what you have learned. (Use your notes as well as other labs to help you.)

3. What is the difference between mass and volume? (Define them)
4. What metric units did you use to measure mass in this lab?
5. What metric units did you use to measure volume in this lab? (*Hint: there were 2*)
6. How do you calculate the volume of a block?
7. How did you find the **volume** of irregularly shaped objects? (Include all necessary steps.)
8. How do you calculate the density of an object?
9. What units did you use to measure density in this lab?

10. Imagine you have 2 samples of the same substance. Sample A is 50g and Sample B is 100g. Did the density of the substance change as the mass changed in each sample? EXPLAIN and give an example to support your answer.

11. Imagine you have 2 samples of the same substance. Sample A is shaped like a nail and Sample B is shaped like a bowl. Did the density of the substance change as the shape changed in each sample? EXPLAIN and give an example to support your answer.

12. If you do not know the identity of a substance, what property could you use to determine the material from which it is made? EXPLAIN

13. What is the density of water?

14. What determines whether an object will float or sink in water? (BE SPECIFIC)

15. Explain why an iron ship floats but an iron bolt sinks in water.